

Speed sensor, inductive

Häggblunds SPDE



VALID FOR

- Häggblunds Quantum, CBp, CBm

FEATURES

- Non-contact, wear free system
- Robust design
- ATEX/IECEX -version available
- Through hole version available

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1 Ordering code

In order to identify Hägglunds equipment exactly, the following ordering code is used. These ordering codes should be stated in full in all correspondence e.g. when ordering spare parts.

Example: SPDE:

SPD	E	2	04	0	00
01	02	03	04	05	06*

01	Speed sensor	
		SPD
02	Type / Version	
		E
03	Type of sensor	
	Standard	1
	ATEX/IECEX -version	2
04	Mounting set or motor type	
	CA	–
	CA through hole	–
	Quantum (QMX)*)	04
	Quantum through hole (QMX)*)	04
	Quantum Power (QMP)*, CBp 240 to CBp 840	05
	Quantum Power through hole (QMP)*, CBp 240 to CBp 840 through hole	05
	CBm	–
CBm through hole	08	
05	Modification	
	Current modification	0
06	Design	
	Standard	00
	Special index	01-99

*) Hägglunds SPDE is part of the hydraulic motor and normally not purchased as a stand alone accessory

– Not available

2 Functional description

The inductive rotation speed sensor gives a single incremental output with 40 or 60 pulses per rotation depending on motor size. The output is triggered by tooth's on the bearing holder at the end of the rotating motor shaft. The signal can be used for speed indication but can in most cases not be used for speed feedback. The sensor cannot indicate direction of rotation. The standard type sensor has an active output (PNP) for direct driving of a load or a digital input. The Ex type sensor has a Namur output and must be connected via an energy limitation amplifier outside ex zone.

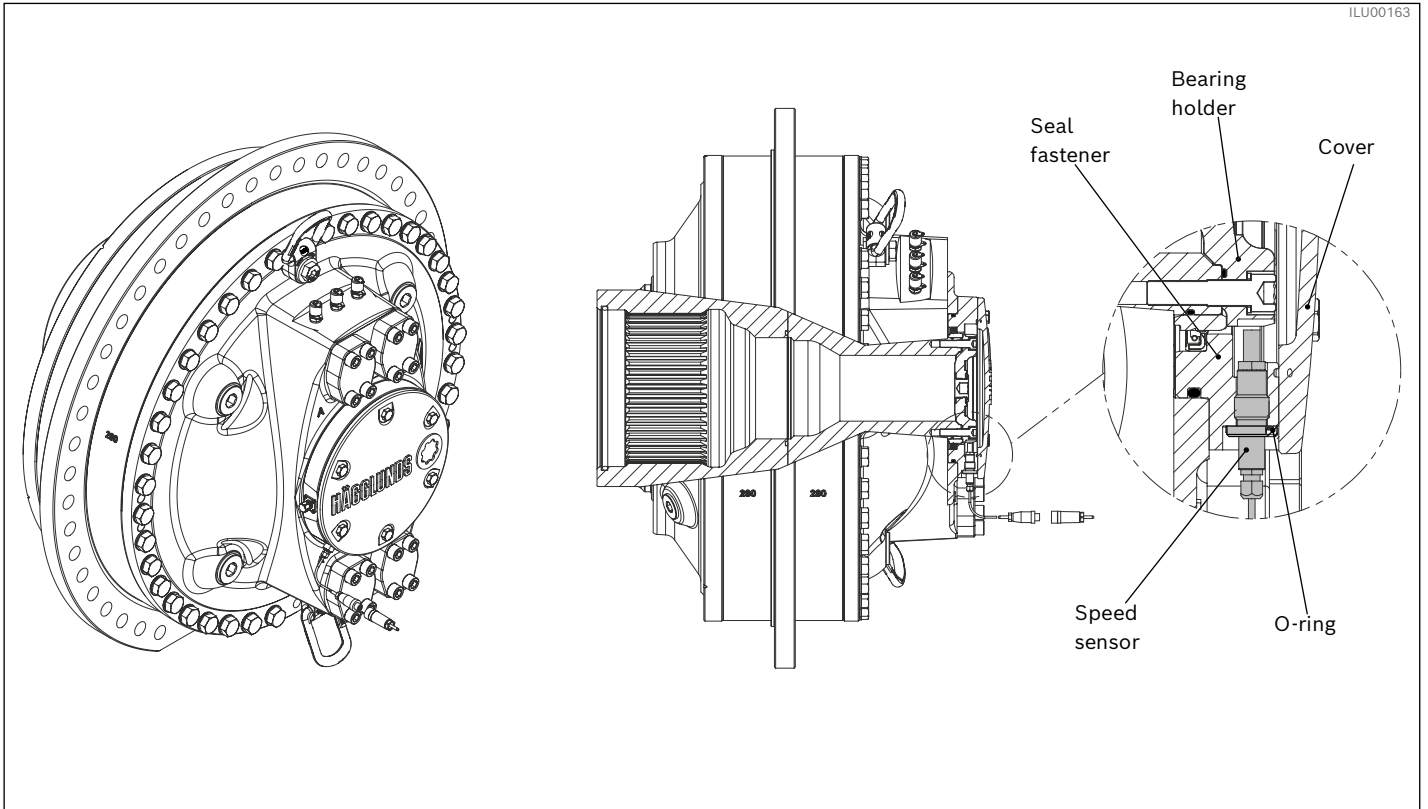


Fig. 1: Quantum motor with SPDE

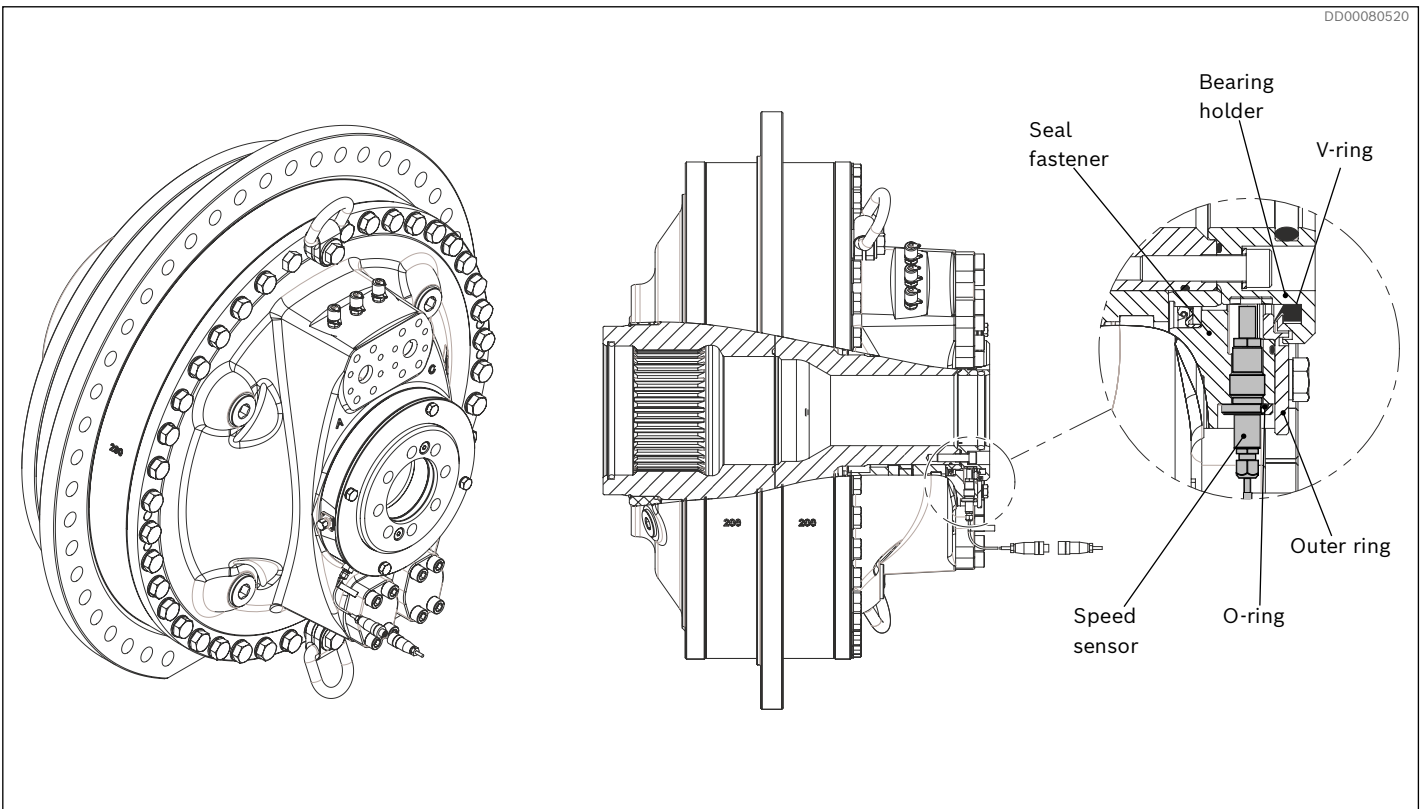


Fig. 2: Quantum motor through hole with SPDE

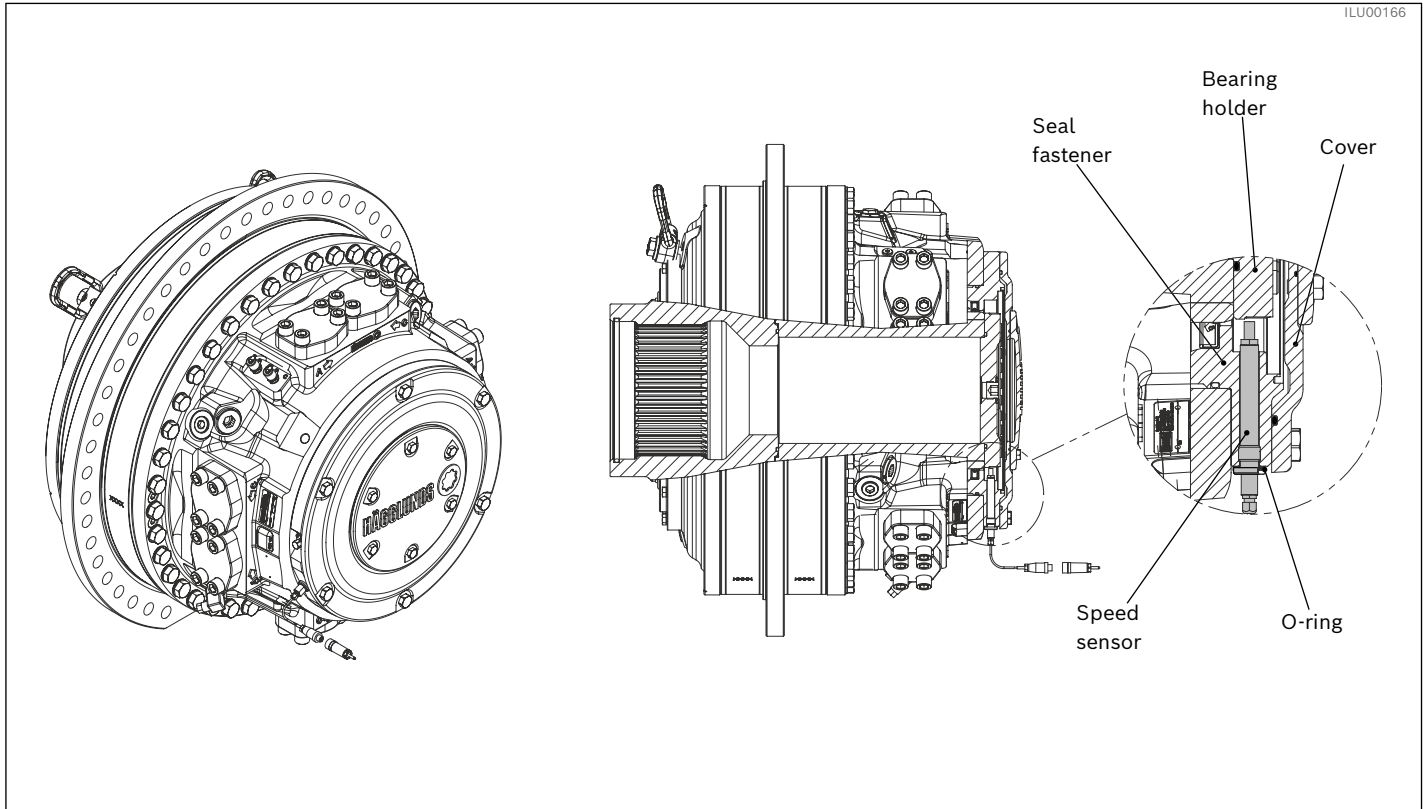


Fig. 3: Quantum power motor with SPDE

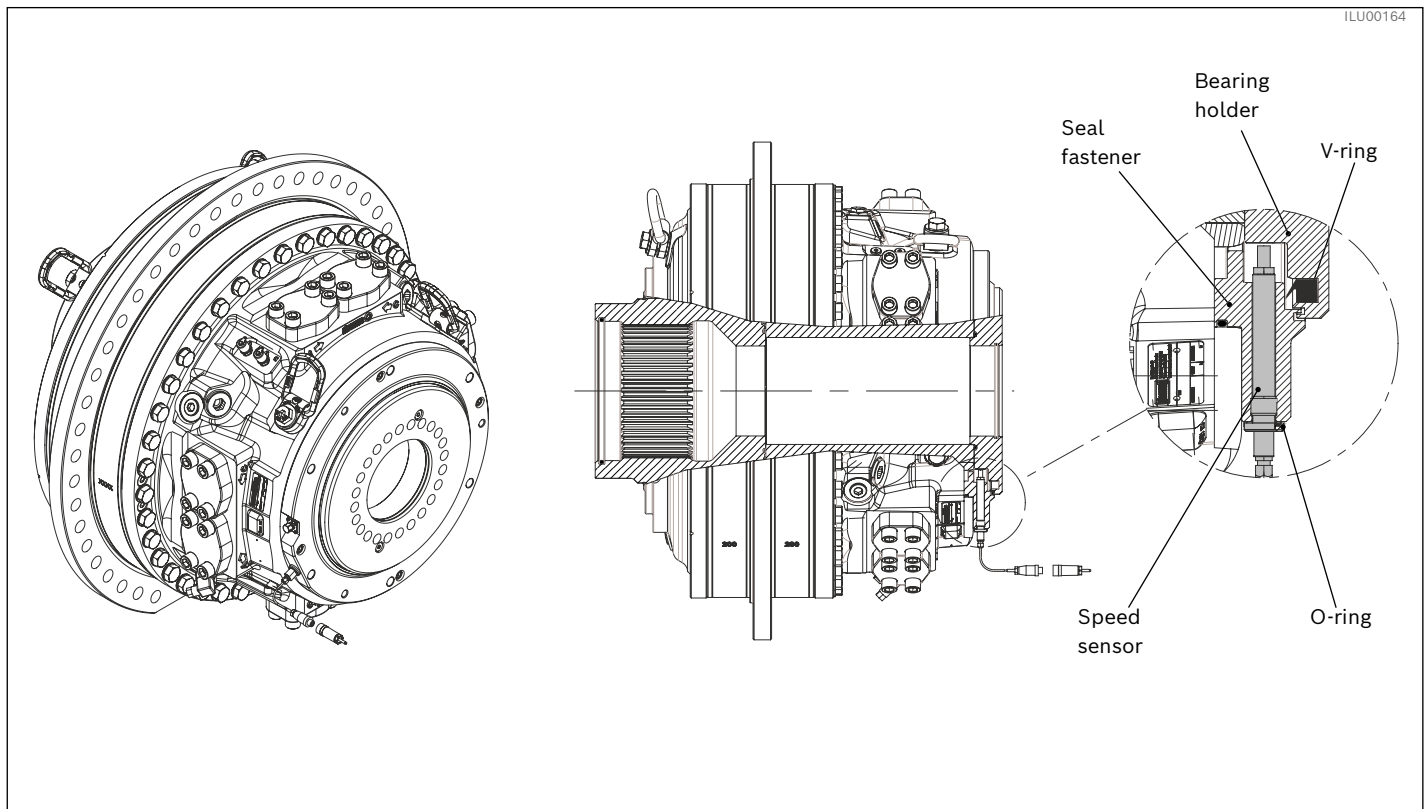


Fig. 4: Quantum power motor through hole with SPDE

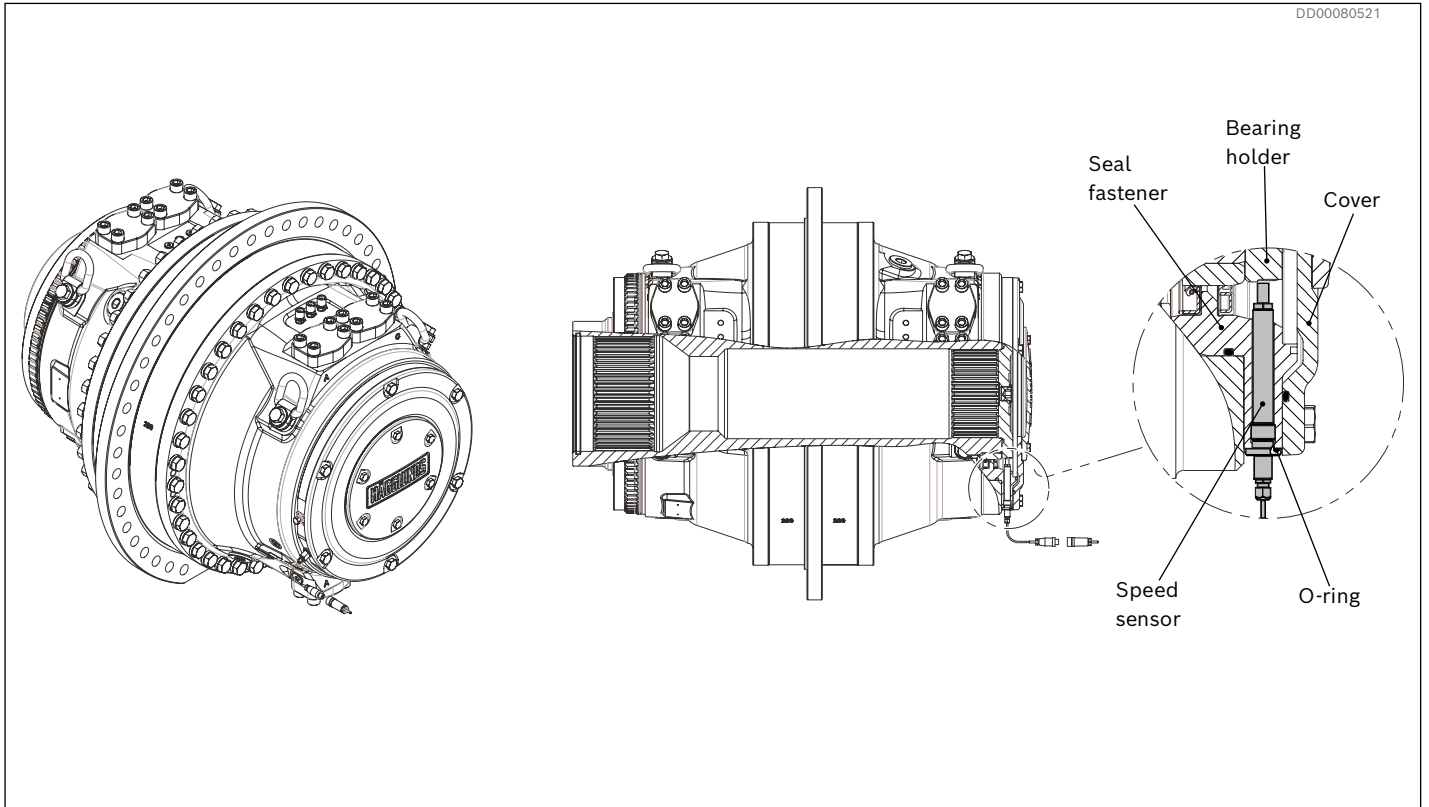


Fig. 5: CBp motor with SPDE

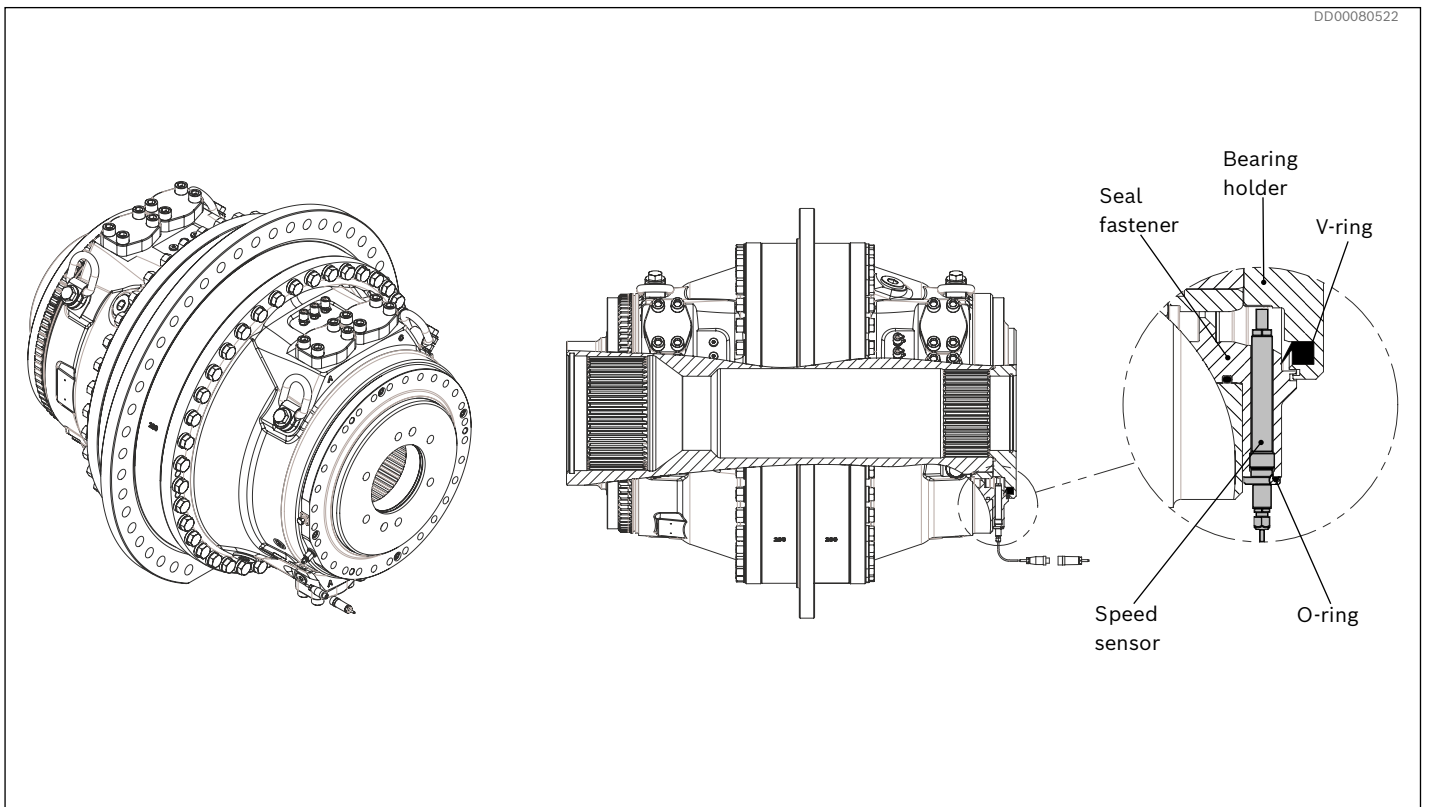


Fig. 6: CBp motor through hole with SPDE

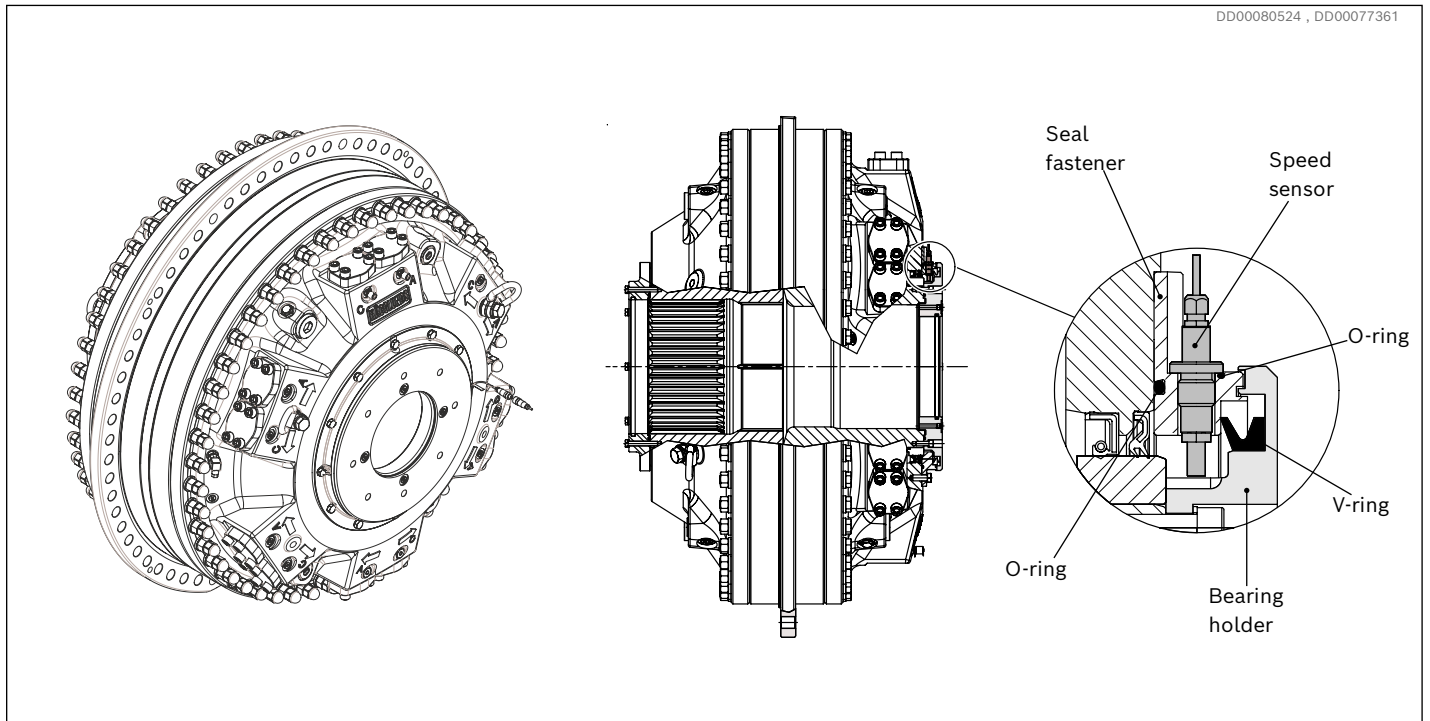


Fig. 7: CBm motor through hole with SPDE

3 Technical data

Table 1: Specifications

Type	Standard	Ex
Electrical specification		
Supply voltage +Ub	DC 24 V (10-36 V)	DC 15 V (5-15V)
Current Consumption	≤11 mA	
Output current		>2 mA (active surface free) <1,5 mA (active surface covered)
Max load	200 mA	-
Voltage drop	≤ 1.5 V (at 200mA, 20°C)	-
Switching function	DC.NO	NAMUR EN 60947-5-6
Self inductance	2 mH	
Self capacitance	250 nF	
Sensor contact	M12 4-pin Male	M12 4-pin Male
Cable contact, R913019688	M12 4-socket Female Screw terminals, max 0,75mm ² Cable size 4-6 mm	M12 4-socket Female Screw terminals, max 0,75mm ² Cable size 4-6 mm
Pulses per revolution QMX, QMP, CBp	40 ppr	40 ppr
Pulses per revolution CBm	60 ppr	60 ppr
Mechanical specification		
Operating temp	-25 °C...+70 °C	-20 °C...+70 °C
Protection class	IP 67	IP 67
Material	Stainless steel	Stainless steel
Sensing distance	0-1,2 mm	0-1,5 mm
Cable min bending radius	25 mm	25 mm
Cable length	2 m	2 m
Approvals		ATEX, IECEx II 1G Ex ia IIC T1-T6 Ga

4 Dimensions / Interface

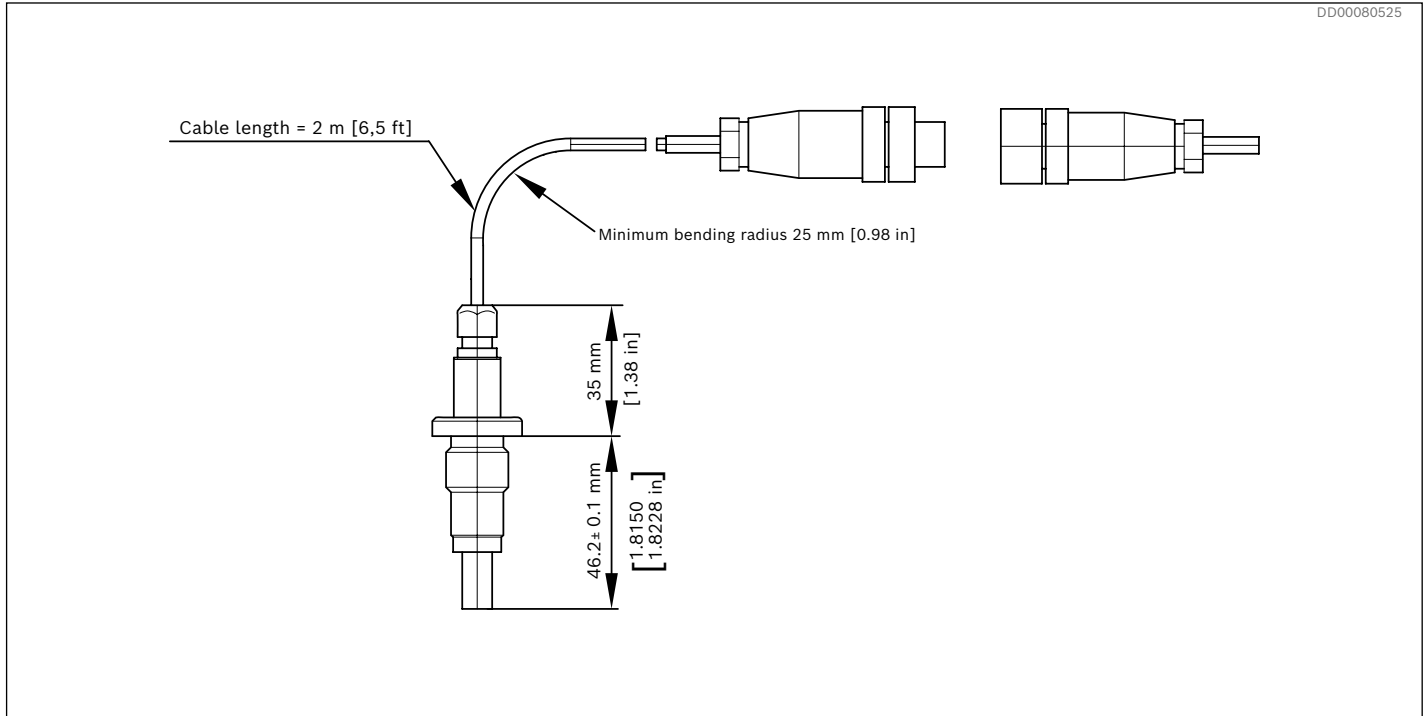


Fig. 8: Version for Quantum and CBm

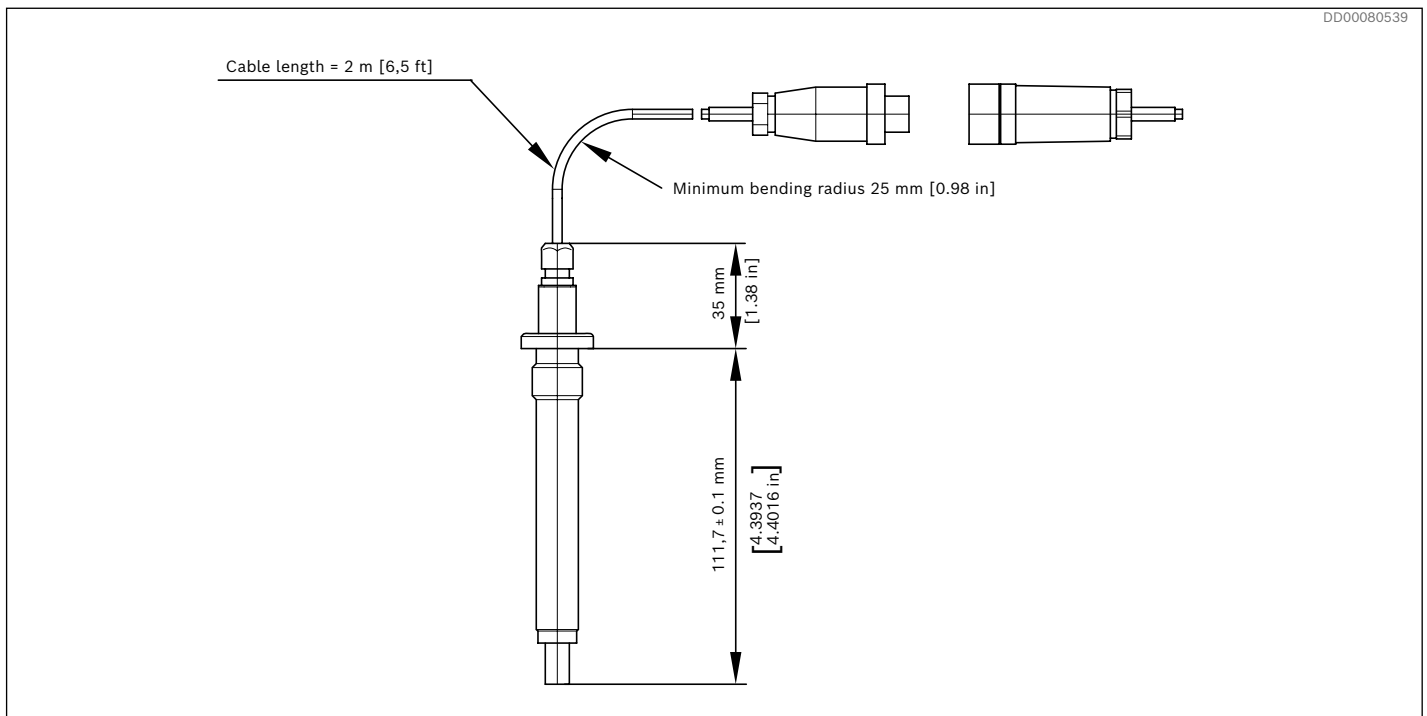


Fig. 9: Version for Quantum Power and CBp 280 to CBp 840

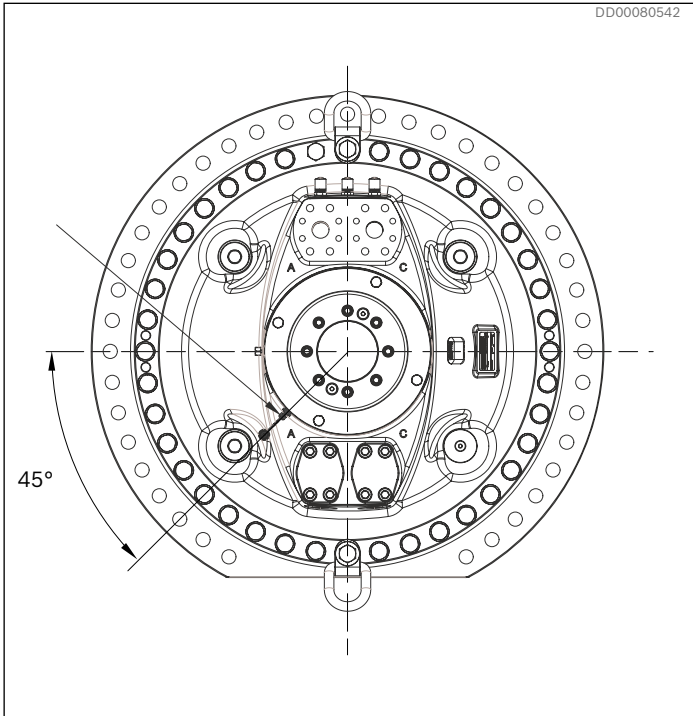


Fig. 10: Position SPDE on Quantum motor

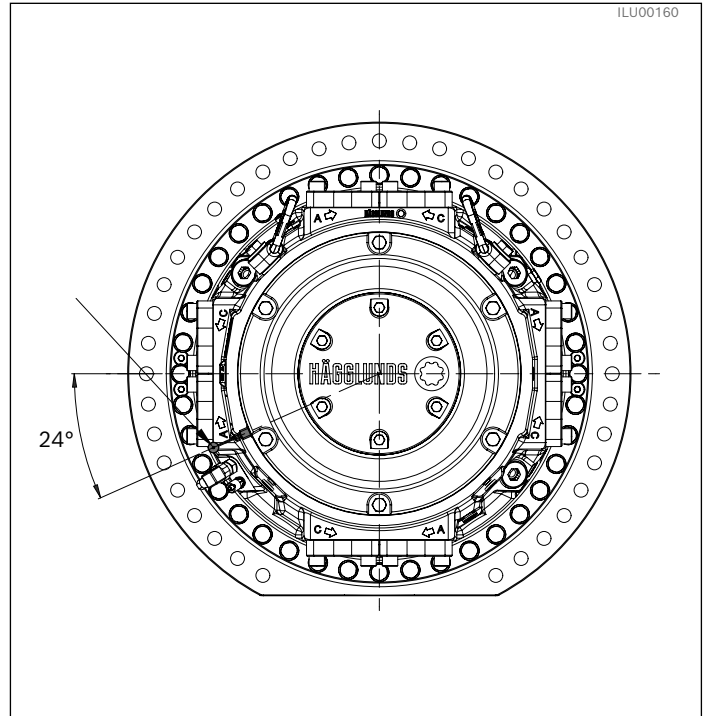


Fig. 11: Position SPDE on Quantum Power motor

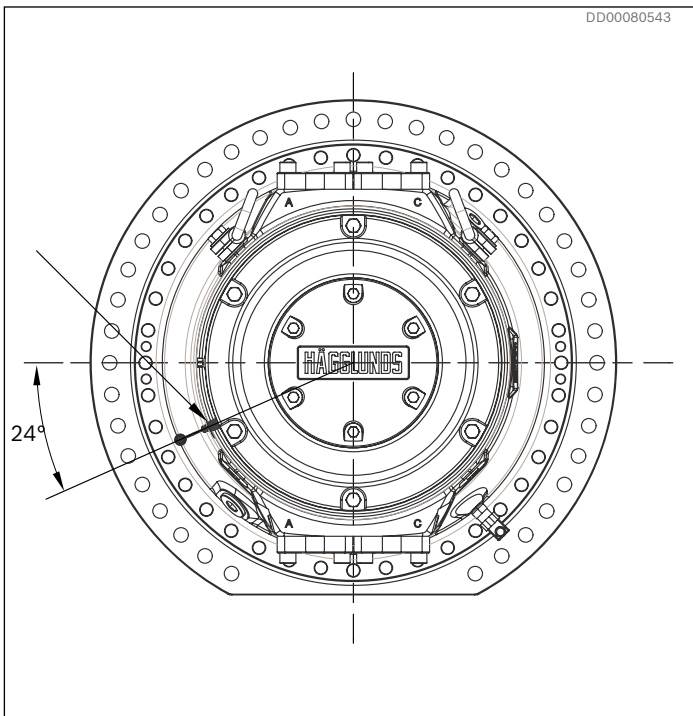


Fig. 12: Position SPDE on CBp motor

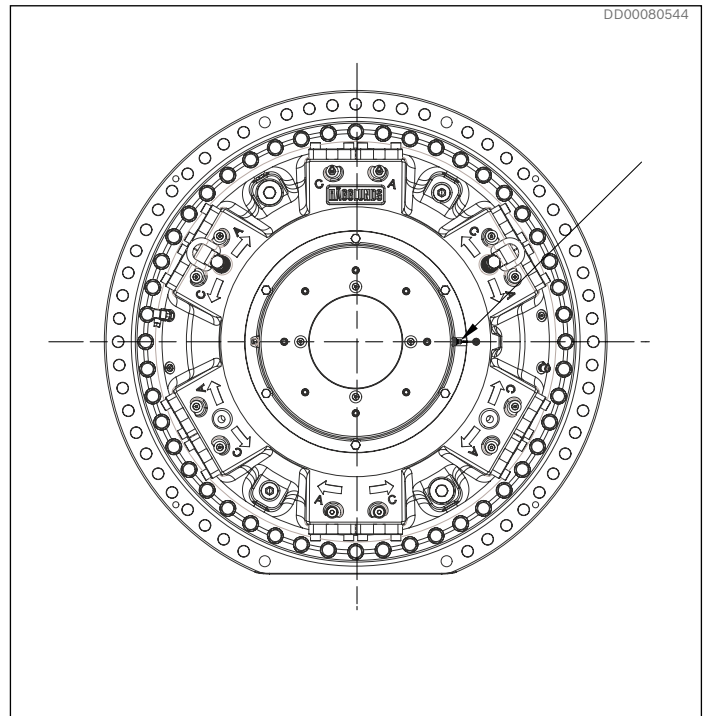


Fig. 13: Position SPDE on CBm motor

5 Installation

5.1 Mechanical installation

Remove the plug G $\frac{3}{8}$ on the motor, using an Allen key and replace it with the sensor.

Tighten to 35 Nm, key width = 12,5 mm [$\frac{1}{2}$ "]

Seal off the sensor with an o-ring .

O-ring size 13,95 x 2,62 , NBR 70 (Included in delivery).

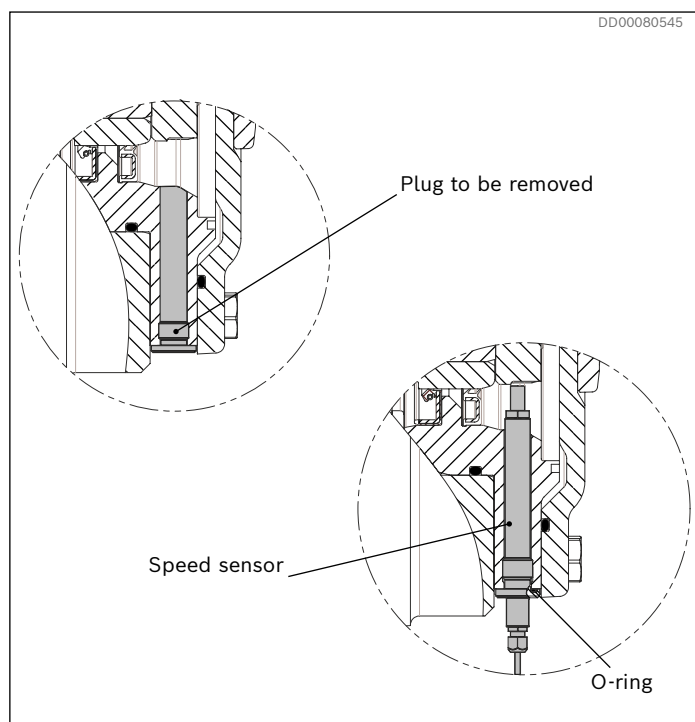


Fig. 14: Mounting SPDE

5.2 Electrical installation

Table 2: Cable connection

Cable connections	Standard sensor	Ex sensor
1	Supply +Ub	+ signal
2	Output	NC
3	0 VDC	- signal
4	NC	NC

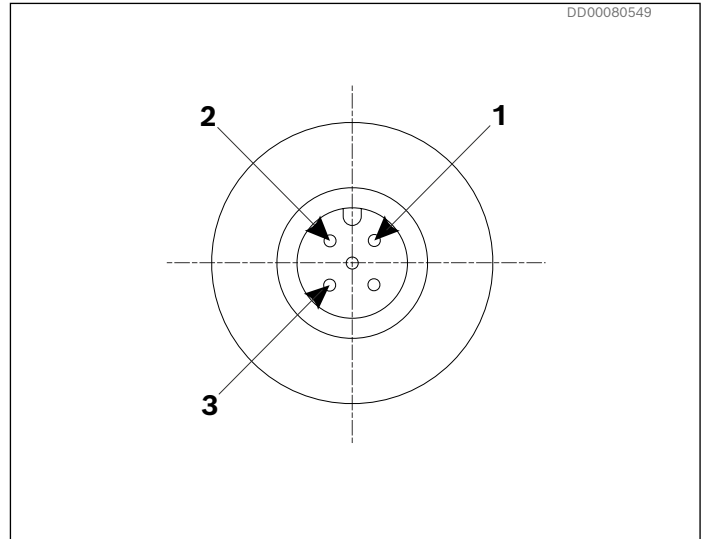


Fig. 15: Sensor connection (pin side)

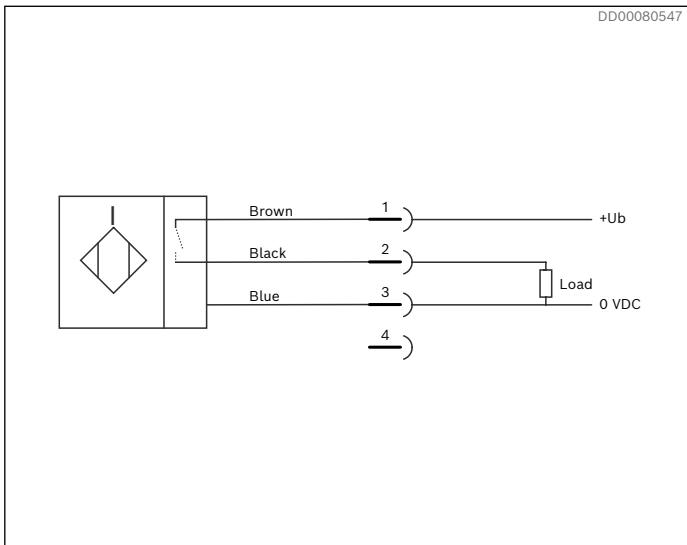


Fig. 16: Connection standard sensor

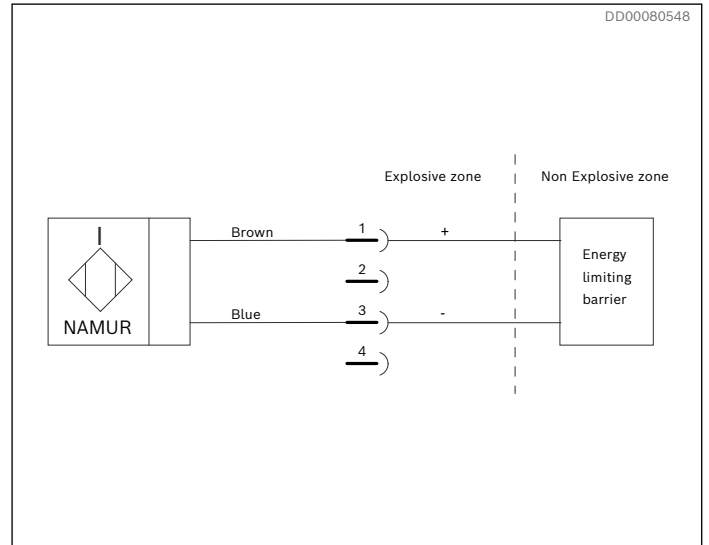






Fig. 17: Connection Ex sensor

The Ex sensor must be connected via an isolating switching amplifier (intrinsic safety barrier) placed outside explosive zone.

6 Related documents

	Title	Document no	Document type
	Hägglands Quantum	RE 15428-A	Data sheet
	Hägglands Quantum Power	RE 15428-B	Data sheet
	Hägglands CBp	RE 15301	Data sheet
	Hägglands CBm	RE 15300	Data sheet

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